ECON 165, Review Section # 8

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May 21, 2021

Plan for Today

- Exchange rates
- PPP
- UIP

ER and LOOP

- **Nominal exchange rate:** relative price of two currencies

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  - we say the \$ appreciates via à vis the € if $\frac{1}{S}$ increases
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- The price of an avocado in Mexico is the same as the price of an avocado in Canada. T/F/U?

Beyond LOOP

- Suppose the average American makes \$20,000 and the average Indian makes 5,000 rupees with a exchange rate $\frac{1}{5} = 1$ (i.e. each rupee is worth 2 dollars). Does this mean that the average American is twice better off?

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- NO! Say that the consumption good costs 0 in India and 1 the US, then the average Indian is infinitely better off!

$\rightarrow$ Need to adjust for the *coast of living*, that is the cost of the **consumption basket**

  - Combine the prices of all consumption goods weighed by the relative importance of each good (e.g. flour weighs more than quinoa), into one price aggregators P

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- What are some reasons for which this might not be true in the real world?

Real Exchange Rate, pg. 1

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Note: this is equal to 1 if PPP holds.

- Caveat: the price of consumption baskets is not always easily available for all countries. Look at change in the price of the consumption basket!

$$\Rightarrow \Delta \log (e_t) \quad = \quad \Delta \log \left(\frac{1}{S} \right) + \pi_t^F - \pi_t^H$$

Real Exchange Rate, pg. 2

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- Suppose Venezuela prints money and inflation hits it while the US keeps inflation under control, what happens then?

Exercise (8.3 in SUW)

Prices in US are in USD and in Argentina in pesos. Tradable goods move *freely*.

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Good	Quantity	Price	Quantity	Price
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1. What is the market (nominal) exchange rate?
2. What are the price levels in the US (in USD) and in Argentina (in pesos)?
3. What is the US/Argentina real exchange rate?

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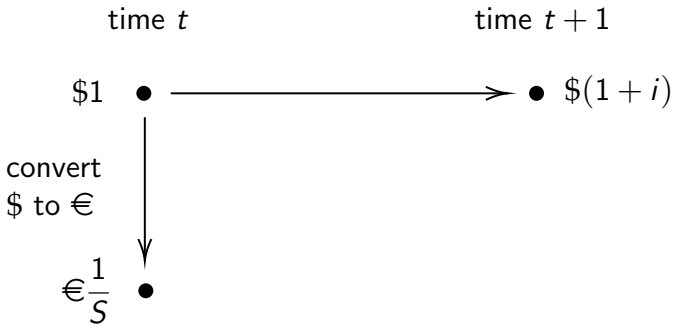

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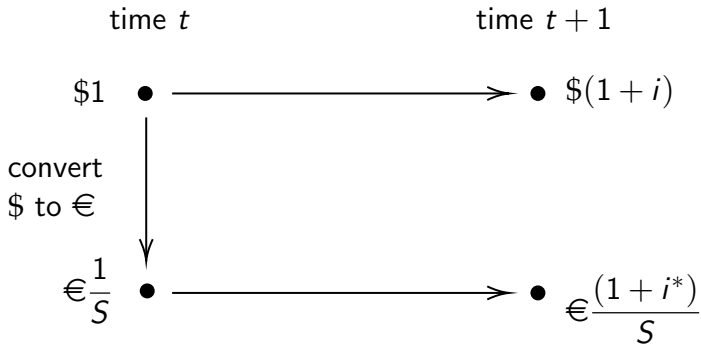

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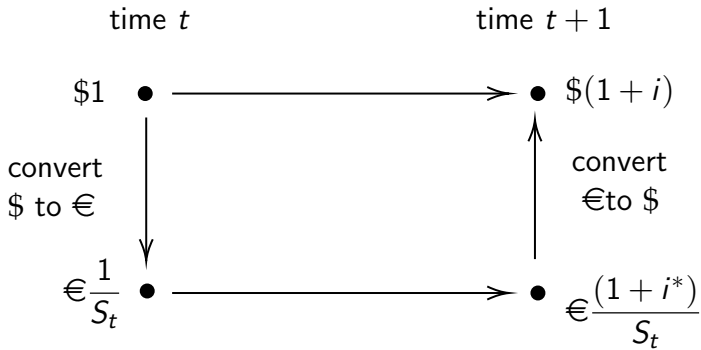
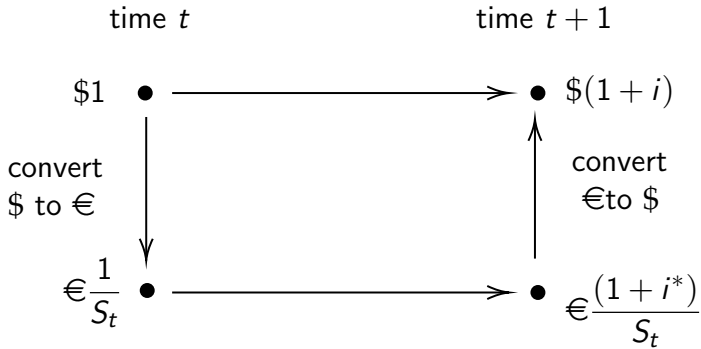


UIP



- For UIP to hold, it must be that there is no free lunch:

$$\$(1+i) = \$\frac{\frac{1}{S_{t+1}}}{\frac{1}{S_t}}(1+i^*)$$

- Why might this not hold?

UIP

- Exchange rates move around (a lot!) and in unpredictable ways.
- So the exchange rate tomorrow is unknown! We get the relation known as **uncovered interest parity**:

$$\$(1+i) = \$\frac{\mathbb{E}\left[\frac{1}{S_{t+1}}\right]}{\frac{1}{S_t}}(1+i^*)$$

  - What happens to the exchange rate when the interest rate i falls?

Speed Round

- Is the nominal exchange rate between Italy and Spain equal to 1? Is the real exchange rate between Italy and Spain equal to 1?.
- Deviations from PPP are mainly driven by differences tradable prices across countries.
- The interest rate in Japan is 0 percent and the interest rate in the United States is 1.75 percent. There is clearly an arbitrage opportunity.
- If there is free capital mobility between the United States and Germany, then dollar deposits in New York and Frankfurt should have the same interest rate.